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METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR JUNE 1947

AEROLOGICAL OBSERVATIONS

[For description of change in Table 1 and charts, see REVIEW, January 1946, p. 61]

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during June 1947*

STATIONS AND MEAN SURFACE PRESSURES

Standard pressure surface (mb.)	Albany, N. Y. (1,004.4 mb.)				Albuquerque, N. Mex. (833.6 mb.)				Apalachicola, Fla. (1,014.8 mb.)				Atlanta, Ga. (981.5 mb.)				Auburn, Calif. (953.9 mb.)				Big Spring, Tex. (921.3 mb.)				Bismarck, N. Dak. (950.3 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	29	86	15.6	83	30	1,620	25.1	21	30	5	25.0	84	30	300	22.6	72	30	501	22.1	42	29	774	27.5	45	30	505	17.1	71
1,000	29	123	(*)	----	30	−11	(*)	----	30	135	24.8	82	30	135	(*)	----	30	87	(*)	----	29	40	(*)	--	30	65	(*)	----
950	29	559	15.0	72	30	468	(*)	----	30	589	22.5	76	30	587	22.6	68	30	537	21.6	43	29	500	(*)	----	30	510	(*)	----
900	29	1,016	12.4	71	30	944	(*)	----	30	1,054	19.7	73	30	1,053	19.4	72	30	1,003	19.1	43	29	981	26.6	45	30	967	14.7	65
850	29	1,494	9.9	73	30	1,448	(*)	----	30	1,544	16.8	71	30	1,543	16.0	73	30	1,491	15.3	47	29	1,483	23.1	46	30	1,448	11.6	68
800	29	1,996	7.1	71	30	1,979	22.8	22	30	2,059	13.8	67	30	2,057	13.4	60	30	2,001	11.4	49	29	2,009	20.3	43	30	1,953	8.3	69
750	28	2,529	4.2	64	30	2,536	18.3	25	30	2,604	10.8	61	30	2,604	10.4	56	30	2,538	7.6	46	29	2,564	16.4	42	30	2,487	5.2	70
700	28	3,084	1.1	63	30	3,121	13.5	29	30	3,174	7.5	58	30	3,170	7.3	53	30	3,101	3.7	44	29	3,146	12.1	41	30	3,044	1.7	67
650	28	3,678	−2.0	58	30	3,741	8.1	35	30	3,786	4.4	55	30	3,782	3.8	49	30	3,701	0.0	38	29	3,760	7.3	40	30	3,640	−2.9	64
600	28	4,309	−5.6	56	30	4,392	2.4	45	29	4,429	0.8	54	30	4,422	−0.1	47	30	4,336	−2.8	----	28	4,413	1.9	43	30	4,271	−5.2	59
550	28	4,989	−9.6	48	28	5,084	−3.4	54	29	5,123	−3.4	51	30	5,113	−4.2	45	30	5,020	−6.7	----	27	5,109	−2.4	37	30	4,950	−9.0	58
500	28	5,716	−14.0	48	28	5,832	−8.8	54	29	5,871	−8.2	49	30	5,858	−9.0	40	30	5,759	−11.3	----	25	5,861	−7.4	----	30	5,681	−13.7	56
450	28	6,511	−19.4	47	28	6,644	−14.1	46	29	6,690	−13.3	45	30	6,674	−14.1	----	30	6,563	−16.9	----	23	6,683	−12.6	----	29	6,483	−18.9	52
400	28	7,354	−25.5	----	28	7,524	−19.8	----	29	7,568	−19.4	46	30	7,550	−20.0	----	29	7,436	−23.1	----	23	7,567	−18.2	----	29	7,342	−24.9	----
350	28	8,327	−32.7	----	28	8,501	−26.9	----	29	8,547	−26.4	----	30	8,527	−27.2	----	29	8,399	−30.8	----	22	8,554	−25.1	----	29	8,299	−32.0	----
300	28	9,395	−40.5	----	27	9,600	−35.1	----	29	9,641	−34.9	----	30	9,618	−35.6	----	28	9,476	−39.5	----	21	9,653	−33.5	----	28	9,368	−39.9	----
250	27	10,615	−49.0	----	27	10,845	−44.6	----	29	10,887	−44.9	----	30	10,860	−45.5	----	28	10,698	−49.0	----	19	10,910	−43.2	----	27	10,590	−48.9	----
200	25	12,071	−55.6	----	26	12,310	−54.3	----	29	12,340	−56.5	----	29	12,312	−56.7	----	26	12,141	−57.2	----	15	12,379	−53.9	----	14	12,044	−56.3	----
175	22	12,909	−57.3	----	17	13,159	−58.5	----	27	13,179	−61.9	----	28	13,145	−62.1	----	21	12,991	−60.1	----	11	13,214	−59.7	----	7	12,901	−55.6	----
150	18	13,881	−59.0	----	----	----	----	----	23	14,126	−67.3	----	20	14,088	−66.5	----	14	13,960	−62.2	----	6	14,157	−64.2	----	----	----	----	----
125	13	15,019	−58.8	----	----	----	----	----	13	15,218	−70.1	----	11	15,174	−67.9	----	10	15,060	−63.0	----	----	----	----	----	----	----	----	----
100	8	16,365	−57.4	----	----	----	----	----	5	16,524	−71.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Standard pressure surface (mb.)	Boise, Idaho (912.5 mb.)				Brownsville, Tex. (1,009.3 mb.)				Buffalo, N. Y. (988.5 mb.)				Caribou, Maine (991.9 mb.)				Charleston, S. C. (1,014.3 mb.)				Ciudad Victoria, Mexico (969.4 mb.)				Columbia, Mo. (982.8 mb.)			
Surface	30	868	18.8	47	30	6	27.5	82	27	221	15.9	81	30	191	12.7	75	30	13	22.1	90	27	335	30.6	54	30	239	22.2	80
1,000	30	72	(*)	----	30	88	26.8	83	27	122	(*)	----	30	121	(*)	----	30	136	22.6	85	27	55	(*)	----	30	88	(*)	----
950	30	525	(*)	----	30	549	23.4	84	27	564	16.2	63	30	555	12.7	65	30	588	21.3	73	27	516	28.7	56	30	538	21.6	75
900	30	986	18.0	44	30	1,014	21.8	61	27	1,018	13.6	64	30	1,006	10.7	66	30	1,050	18.1	70	27	995	24.5	60	30	1,003	19.2	72
850	30	1,472	14.2	46	30	1,509	19.9	48	27	1,497	10.5	65	30	1,480	7.8	64	30	1,538	15.0	71	27	1,493	20.5	65	30	1,494	16.6	72
800	30	1,980	10.0	52	30	2,029	17.2	39	27	2,000	7.5	60	30	1,978	5.0	71	30	2,050	12.3	63	27	2,014	16.6	69	30	2,009	14.0	60
750	30	2,514	5.7	57	30	2,582	14.6	32	27	2,539	4.4	56	30	2,507	2.4	68	30	2,594	9.6	54	27	2,566	12.9	66	30	2,556	11.0	56
700	30	3,072	1.3	61	30	3,157	11.5	28	27	3,088	1.5	50	30	3,057	−0.3	66	30	3,159	6.3	53	27	3,140	10.7	43	30	3,124	8.1	51
650	30	3,668	−2.3	57	30	3,776	8.0	----	27	3,687	−1.8	44	30	3,650	−3.2	61	30	3,765	2.7	52	27	3,757	6.6	41	30	3.733	4.5	47
600	30	4,296	−6.3	55	30	4,427	4.0	----	27	4,314	−5.4	46	30	4,276	−7.0	59	29	4,407	−1.0	43	26	4,406	2.5	----	30	4,390	0.1	48
550	30	4,969	−11.1	54	30	5,132	−0.3	----	27	4,997	−9.1	----	30	4,950	−10.8	50	29	5,096	−5.0	40	26	5,105	−1.8	----	30	5,069	−4.3	49
500	30	5,695	−15.8	50	30	5,884	−5.2	----	26	5,723	−13.8	----	30	5,676	−15.6	53	29	5,839	−9.6	----	26	5,857	−6.3	----	30	5,817	−8.7	41
450	30	6,484	−21.3	----	30	6,711	−10.8	----	26	6,527	−18.8	----	30	6,467	−20.8	----	28	6,658	−14.9	----	25	6,680	−11.7	----	30	6,634	−14.0	----
400	30	7,340	−27.3	----	29	7,597	−17.1	----	26	7,384	−24.8	----	30	7,324	−26.8	----	28	7,530	−20.8	----	23	7,568	−17.7	----	30	7,510	−20.4	----
350	30	8,287	−34.6	----	29	8,584	−24.2	----	26	8,341	−31.9	----	30	8,277	−33.4	----	28	8,503	−27.7	----	23	8,553	−24.6	----	30	8,484	−27.8	----
300	28	9,355	−41.8	----	29	9,689	−32.4	----	25	9,420	−39.5	----	30	9,339	−41.1	----	28	9,592	−36.3	----	23	9,658	−32.8	----	30	9,573	−35.8	----
250	28	10,567	−49.8	----	29	10,948	−42.1	----	25	10,644	−47.8	----	30	10,556	−48.9	----	25	10,828	−45.8	----	23	10,917	−42.9	----	26	10,811	−44.8	----
200	27	12,003	−55.2	----	29	12,421	−53.4	----	23	12,106	−55.1	----	28	12,000	−53.9	----	24	12,282	−56.2	----	21	12,383	−54.7	----	22	12,282	−54.6	----
175	25	12,864	−55.0	----	24	13,270	−58.8	----	19	12,966	−56.3	----	23	12,878	−54.4	----	20	13,112	−61.4	----	16	13,226	−61.0	----	17	13,131	−59.1	----
150	17	13,861	−55.1	----	16	14,236	−64.6	----	18	13,948	−58.1	----	15	13,855	−52.5	----	11	14,072	−65.6	----	----	----	----	----	9	14,107	−63.2	----
125	6	15,010	−55.2	----	----	----	----	----	11	15,064	−57.0	----	11	15,034	−54.3	----	6	15,175	−68.0	----	----	----	----	----	----	----	----	----
100	----	----	----	----	----	----	----	----	8	16,493	−58.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

See footnotes at end of table.

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TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during June 1947*—Continued

Standard pressure surface (mb.)	Dodge City, Kans. (919.3 mb.)				El Paso, Tex. (877.3 mb.)				Ely, Nev. (806.5 mb.)				Fort Worth, Tex. (985.8 mb.)				Glasgow, Mont. (935.0 mb.)				Grand Junction, Colo. (848.6 mb.)				Great Falls, Mont. (884.1 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	30	787	21.0	69	30	1,195	28.3	21	30	1,908	16.1	42	30	211	27.3	59	30	648	17.0	60	30	1,474	21.1	36	30	1,128	15.0	56
1,000	30	46	(*)	----	30	15	(*)	----	30	34	(*)	----	30	82	(*)	----	30	67	(*)	----	30	26	(*)	----	30	69	(*)	----
950	30	501	(*)	----	30	487	(*)	----	30	493	(*)	----	30	541	25.9	58	30	514	(*)	----	30	490	(*)	----	30	517	(*)	----
900	30	970	21.4	62	30	974	(*)	----	30	963	(*)	----	30	1,012	22.6	60	30	972	15.0	56	30	967	(*)	----	30	979	(*)	----
850	30	1,465	19.5	55	30	1,475	27.1	20	30	1,456	(*)	----	30	1,508	19.1	62	30	1,454	11.9	58	30	1,459	(*)	----	30	1,460	13.0	54
800	30	1,985	17.1	51	30	2,005	22.7	23	30	1,977	16.3	39	30	2,027	17.6	44	30	1,958	8.1	64	30	1,981	18.1	34	30	1,966	8.8	59
750	30	2,538	13.9	45	30	2,563	17.7	27	30	2,523	12.5	41	30	2,582	15.1	33	30	2,491	4.4	66	30	2,529	13.5	39	30	2,500	4.5	64
700	30	3,111	9.9	44	30	3,145	12.5	32	30	3,096	7.7	48	30	3,157	11.4	32	30	3,047	0.6	70	30	3,105	8.5	46	30	3,054	0.0	70
650	30	3,724	5.5	43	30	3,761	7.0	38	30	3,698	2.7	56	30	3,775	6.9	33	30	3,638	−3.0	68	30	3,710	3.3	54	30	3,647	−4.0	72
600	30	4,372	0.8	40	30	4,413	2.1	38	30	4,343	−2.6	62	30	4,424	2.1	35	30	4,268	−6.4	61	30	4,355	−1.9	60	30	4,271	−7.8	62
550	30	5,066	−3.9	39	30	5,109	−2.9	39	30	5,024	−7.6	67	30	5,121	−2.5	32	30	4,947	−10.3	58	30	5,040	−7.2	64	30	4,947	−12.1	62
500	30	5,810	−8.9	35	29	5,858	−7.9	----	29	5,760	−12.7	67	30	5,870	−7.5	----	30	5,671	−15.0	56	29	5,780	−12.5	66	29	5,667	−16.9	62
450	30	6,625	−14.5	39	29	6,677	−13.2	----	29	6,563	−18.0	58	30	6,693	−12.9	----	29	6,468	−20.2	62	29	6,586	−17.6	57	29	6,459	−22.2	----
400	30	7,500	−20.7	----	29	7,556	−19.5	----	28	7,423	−23.9	48	29	7,573	−19.2	----	29	7,327	−26.5	----	28	7,446	−24.2	----	28	7,305	−28.4	----
350	30	8,473	−27.9	----	28	8,534	−27.0	----	28	8,385	−30.6	----	29	8,552	−26.8	----	28	8,281	−33.3	----	28	8,405	−31.3	----	28	8,247	−35.7	----
300	30	9,560	−36.6	----	27	9,624	−35.8	----	28	9,463	−38.5	----	29	9,644	−35.3	----	28	9,344	−41.8	----	28	9,479	−39.2	----	27	9,299	−44.1	----
250	30	10,797	−46.1	----	27	10,864	−45.7	----	27	10,695	−47.6	----	29	10,888	−45.3	----	24	10,545	−51.0	----	27	10,708	−47.3	----	27	10,498	−52.4	----
200	26	12,253	−56.1	----	24	12,315	−56.2	----	22	12,140	−54.8	----	29	12,340	−56.2	----	22	11,971	−54.8	----	25	12,154	−55.2	----	25	11,936	−54.7	----
175	24	13,089	−60.6	----	15	13,161	−60.7	----	18	12,974	−57.7	----	27	13,175	−61.5	----	18	12,819	−52.8	----	21	12,997	−57.9	----	22	12,790	−53.4	----
150	15	14,075	−63.1	----	6	14,085	−66.2	----	9	13,939	−59.6	----	16	14,122	−65.4	----	17	13,819	−52.0	----	13	13,946	−58.0	----	15	13,768	−52.6	----
125	11	15,207	−64.9	----	----	----	----	----	----	----	----	----	----	----	----	----	9	15,019	−52.9	----	----	----	----	----	10	14,963	−53.9	----
100	8	16,532	−65.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Standard pressure surface (mb.)	Greensboro, N. C. (984.7 mb.)				Hatteras, N. C. (1,016.0 mb.)				Havana, Cuba (1,019.7 mb.)				Honolulu, T. H. (1,016.2 mb.)				Huntington, W. Va. (994.5 mb.)				International Falls, Minn. (970.9 mb.)				Joliet, Ill. (992.0 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	30	273	20.9	76	30	3	22.2	85	18	49	25.4	88	30	3	27.5	60	24	172	19.6	84	30	360	14.1	70	30	178	16.9	80
1,000	30	138	(*)	----	30	141	21.5	83	18	136	25.4	88	30	145	25.3	63	24	123	(*)	----	30	108	(*)	----	30	108	(*)	----
950	30	584	20.9	67	30	590	19.5	73	18	592	23.0	82	30	598	21.5	70	24	573	20.0	71	30	546	14.5	60	30	551	17.6	73
900	30	1,050	17.8	70	30	1,050	17.0	66	18	1,058	20.0	78	30	1,061	18.1	73	24	1,031	16.8	72	30	998	11.2	63	30	1,010	15.2	73
850	30	1,538	14.3	75	30	1,536	14.6	59	18	1,549	16.8	71	30	1,549	15.2	71	24	1,517	13.3	75	30	1,473	7.8	70	30	1,492	12.4	68
800	30	2,048	11.1	72	30	2,046	11.9	55	18	2,065	14.1	68	30	2,062	14.6	45	24	2,025	10.0	71	30	1,971	4.8	74	30	2,000	10.7	59
750	30	2,590	8.1	65	30	2,588	9.3	45	18	2,611	11.0	63	30	2,608	12.7	32	24	2,565	7.6	54	30	2,500	2.1	74	30	2,539	8.0	51
700	30	3,151	5.0	57	30	3,154	6.4	39	18	3,181	7.6	59	30	3,183	10.7	19	24	3,125	4.8	47	30	3,050	−0.4	62	30	3,102	5.3	48
650	30	3,757	1.7	43	30	3,757	3.2	38	16	3,792	3.9	67	30	3,798	7.6	----	24	3,731	1.5	49	29	3,642	−3.6	50	30	3,707	2.1	46
600	30	4,394	−1.8	36	30	4,402	−0.7	38	16	4,436	0.2	----	30	4,450	4.0	----	24	4,366	−2.4	48	29	4,267	−6.7	45	30	4,345	−1.7	43
550	30	5,082	−5.7	33	30	5,089	−5.0	----	16	5,132	−3.6	----	30	5,154	−0.5	----	24	5,056	−5.8	----	29	4,950	−10.1	46	29	5,032	−5.8	48
500	30	5,823	−10.3	37	30	5,834	−9.5	----	15	5,878	−7.9	----	29	5,905	−5.8	----	24	5,794	−10.4	----	29	5,671	−14.8	41	29	5,773	−10.7	46
450	30	6,634	−15.7	----	30	6,644	−14.7	----	15	6,699	−12.6	----	29	6,731	−12.0	----	24	6,601	−15.9	----	29	6,470	−20.1	45	29	6,580	−15.8	44
400	30	7,507	−21.5	----	30	7,522	−20.5	----	15	7,582	−18.7	----	29	7,612	−18.6	----	24	7,476	−22.2	----	28	7,328	−26.0	----	29	7,453	−22.2	----
350	30	8,477	−28.7	----	29	8,497	−27.1	----	15	8,562	−26.1	----	29	8,594	−25.8	----	24	8,443	−29.6	----	25	8,287	−33.4	----	29	8,419	−29.7	----
300	30	9,562	−37.2	----	28	9,589	−35.3	----	13	9,656	−34.6	----	28	9,692	−34.0	----	24	9,524	−37.8	----	22	9,356	−41.7	----	29	9,500	−37.9	----
250	29	10,798	−46.6	----	27	10,845	−44.5	----	12	10,901	−45.3	----	28	10,944	−43.2	----	23	10,757	−47.2	----	20	10,557	−50.8	----	26	10,732	−46.7	----
200	27	12,238	−57.5	----	26	12,305	−55.0	----	10	12,349	−57.6	----	27	12,413	−53.4	----	23	12,201	−57.3	----	15	11,972	−54.0	----	24	12,193	−55.9	----
175	24	13,068	−62.4	----	22	13,144	−60.3	----	7	13,172	−64.3	----	25	13,265	−58.0	----	22	13,035	−61.6	----	12	12,832	−53.1	----	21	13,038	−59.3	----
150	21	14,006	−65.8	----	12	14,105	−62.4	----	----	----	----	----	21	14,221	−62.2	----	19	13,978	−64.1	----	8	13,825	−51.8	----	17	13,981	−61.7	----
125	11	15,095	−66.2	----	----	----	----	----	----	----	----	----	10	15,344	−64.3	----	9	15,059	−63.5	----	6	15,006	−52.7	----	9	15,119	−62.2	----
100	8	16,445	−64.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Standard pressure surface (mb.)	Lake Charles, La. (1,012.4 mb.)				Lander, Wyo. (826.4 mb.)				Las Vegas, Nev. (939.7 mb.)				Little Rock, Ark. (1,002.7 mb.)				Mazatlan, Mexico (1,007.2 mb.)				Medford, Oreg. (967.6 mb.)				Merida, Mexico (1,008.1 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	30	5	25.6	85	29	1,696	13.2	58	30	574	31.3	14	30	79	24.4	80	29	14	27.7	74	30	401	20.0	48	30	27	29.2	65
1,000	30	114	25.2	82	29	56	(*)	----	30	11	(*)	----	30	103	24.3	80	29	78	26.9	74	30	116	(*)	----	30	99	28.5	66
950	30	569	22.4	78	29	508	(*)	----	30	478	(*)	----	30	556	23.5	75	29	534	23.8	68	30	564	18.5	50	30	553	25.7	67
900	30	1,034	19.9	71	29	974	(*)	----	30	959	28.2	16	30	1,023	20.5	76	29	1,003	22.5	63	30	1,019	14.3	56	30	1,028	22.2	70
850	30	1,525	17.6	62	29	1,456	(*)	----	30	1,461	23.5	19	30	1,516	18.0	65	29	1,498	19.8	66	30	1,499	10.1	64	30	1,524	19.2	73
800	30	2,042	14.8	58	29	1,969	13.6	46	30	1,984	18.6	22	30	2,034	16.0	48	29	2,019	17.0	66	30	2,000	6.2	69	30	2,043	15.6	72
750	30	2,593	12.0	48	29	2,512	9.6	47	30	2,534	13.5	27	30	2,585	13.7	39	29	2,576	14.3	59	30	2,531	3.0	63	30	2,591	12.2	68
700	30	3,161	8.9	43	29	3,078	5.1	52	30	3,107	8.5	31	30	3,158	10.5	38	29	3,148	11.1	55	30	3,082	−0.3	55	30	3,164	8.8	64
650	29	3,775	5.6	37	29	3,678	0.2	59	30	3,715	3.2	36	30	3,773	6.3	47	29	3,766	7.0	52	30	3,673	−3.6	46	30	3,775	5.6	50
600	29	4,421	1.5	----	29	4,315	−4.4	58	30	4,357	−1.2	35	30	4,422	1.8	48	29	4,417	2.6	50	30	4,300	−7.0	39	30	4,424	2.0	42
550	29	5,118	−3.1	----	29	4,996	−9.1	57	30	5,048	−5.4	----	30	5,119	−2.8	41	29	5,116	−2.1	51	30	4,977	−10.8	43	29	5,118	−2.1	35
500	29	5,863	−8.2	----	29	5,728	−14.0	57	30	5,788	−9.9	----	30	5,869	−7.3	----	29	5,867	−6.5	41	30	5,700	−15.3	41	29	5,871	−6.7	30
450	29	6,686	−13.2	----	26	6,522	−19.7	54	30	6,600	−15.4	----	30	6,692	−12.2	----	28	6,696	−11.4	36	30	6,494	−20.3	40	28	6,694	−11.7	----
400	29	7,561	−19.6	----	26	7,382	−26.0	----	30	7,472	−22.0	----	29	7,573	−18.4	----	28	7,578	−17.1	----	30	7,350	−26.4	----	28	7,580	−17.7	----
350	28	8,539	−26.6	----	26	8,334	−33.2	----	30	8,439	−29.8	----	27	8,557	−25.7	----	28	8,565	−24.4	----	30	8,300	−33.6	----	28	8,564	−25.4	----
300	28	9,633	−34.9	----	26	9,399	−41.5	----	30	9,518	−38.4	----	25	9,653	−33.8	----	28	9,669	−32.9	----	30	9,363	−41.8	----	28	9,662	−34.2	----
250	28	10,879	−44.5	----	25	10,617	−50.5	----	30	10,746	−47.4	----	23	10,911	−41.3	----	28	10,927	−42.8	----	30	10,574	−50.0	----	28	10,911	−44.1	----
200	27	12,337	−55.5	----	21	12,054	−56.6	----	27	12,199	−56.3	----	19	12,363	−53.9	----	24	12,396	−54.4	----	30	12,010	−55.9	----	21	12,376	−55.3	----
175	26	13,177	−61.4	----	15	12,916	−56.4	----	25	13,043	−59.8	----	14	13,226	−59.0	----	20	13,238	−60.8	----	30	12,857	−56.7	----	9	13,219	−61.5	----
150	23	14,122	−66.4	----	12	13,905	−57.4	----	15	14,004	−61.7	----	8	14,219	−61.7	----	13	14,181	−67.7	----	27	13,833	−56.8	----	----	----	----	----
125	17	15,225	−70.5	----	9	15,049	−58.7	----	11	15,122	−64.6	----	----	----	----	----	----	----	----	----	18	14,975	−57.8	----	----	----	----	----
100	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5	16,316	−54.6	----	----	----	----	----

See footnotes at end of table.

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during June 1947*—Continued

Standard pressure surface (mb.)	Miami, Fla. (1,015.4 mb.)				Nantucket, Mass. (1,014.5 mb.)				Nashville, Tenn. (993.2 mb.)				New Orleans, La. (1,013.5 mb.)				North Platte, Nebr. (913.3 mb.)				Oakland, Calif. (1,012.0 mb.)				Ogden, Utah (860.8 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	30	4	25.1	85	28	14	12.8	91	30	180	23.3	74	30	2	25.8	84	29	849	17.3	77	30	6	18.1	68	30	1,355	17.2	53
1,000	30	139	24.6	83	28	134	14.1	81	30	119	(*)	----	30	120	25.6	81	29	61	(*)	----	30	108	17.2	67	30	49	(*)	----
950	30	591	22.2	82	28	574	14.2	61	30	572	21.9	73	30	580	23.4	77	29	509	(*)	----	30	552	17.6	53	30	504	(*)	----
900	30	1,058	19.3	81	28	1,024	12.2	56	30	1,036	19.0	74	30	1,044	20.7	73	29	974	17.6	70	30	1,007	17.0	43	30	974	(*)	----
850	30	1,548	16.4	78	28	1,502	10.4	55	30	1,525	15.8	73	30	1,537	17.9	68	29	1,462	15.6	65	30	1,492	14.4	40	30	1,463	17.2	48
800	30	2,063	13.5	75	28	2,005	7.7	51	30	2,039	13.3	61	30	2,054	15.3	61	29	1,975	12.9	64	30	2,001	11.7	36	30	1,977	13.6	48
750	30	2,611	10.4	75	28	2,540	5.8	43	30	2,588	10.7	54	30	2,602	12.6	51	29	2,518	9.4	63	30	2,542	8.8	33	30	2,518	9.1	53
700	30	3,177	7.4	76	28	3,096	3.1	33	30	3,153	7.6	51	30	3,175	9.4	48	29	3,084	6.3	57	30	3,105	5.9	----	30	3,083	4.6	59
650	30	3,788	3.9	72	27	3,697	−0.2	36	30	3,763	4.1	48	30	3,790	5.9	41	29	3,689	2.3	58	29	3,711	3.0	----	30	3,683	−0.1	63
600	30	4,431	0.2	72	27	4,330	−4.1	42	30	4,407	0.2	46	30	4,438	2.3	38	29	4,330	−2.0	57	29	4,352	−0.3	----	30	4,318	−4.8	64
550	30	5,123	−3.6	66	27	5,011	−8.4	44	29	5,099	−3.9	38	30	5,136	−1.9	38	28	5,018	−6.4	55	28	5,048	−4.0	----	30	4,997	−9.6	66
500	30	5,872	−7.9	64	26	5,748	−12.5	47	28	5,845	−8.8	42	28	5,886	−6.5	42	28	5,752	−11.5	52	28	5,792	−8.8	----	30	5,727	−14.6	63
450	30	6,690	−12.8	64	26	6,549	−17.7	----	27	6,668	−13.7	----	27	6,711	−11.5	----	26	6,562	−17.1	----	28	6,610	−14.2	----	30	6,523	−19.9	57
400	30	7,575	−18.2	65	26	7,415	−23.6	----	27	7,540	−19.8	----	26	7,597	−17.5	----	26	7,479	−23.3	----	27	7,485	−20.5	----	30	7,381	−26.1	----
350	30	8,558	−25.1	----	26	8,377	−30.2	----	27	8,516	−27.0	----	24	8,581	−24.8	----	26	8,392	−30.7	----	26	8,459	−27.7	----	30	8,333	−23.3	----
300	30	9,659	−33.3	----	26	9,454	−38.3	----	26	9,608	−35.1	----	23	9,684	−33.0	----	26	9,467	−39.0	----	25	9,548	−36.0	----	30	9,397	−41.8	----
250	29	10,913	−43.5	----	25	10,679	−46.8	----	24	10,861	−44.4	----	21	10,939	−42.4	----	26	10,694	−47.8	----	23	10,796	−45.2	----	30	10,608	−50.1	----
200	25	12,372	−55.4	----	22	12,140	−54.2	----	24	12,319	−55.4	----	19	12,414	−53.2	----	25	12,132	−56.5	----	18	12,275	−54.0	----	29	12,047	−55.5	----
175	22	13,213	−61.6	----	22	12,989	−57.0	----	23	13,168	−60.8	----	14	13,269	−58.6	----	24	12,980	−58.4	----	12	13,146	−57.6	----	24	12,868	−56.4	----
150	11	14,125	−67.3	----	14	13,968	−60.1	----	20	14,118	−65.0	----	6	14,239	−64.0	----	22	13,951	−59.7	----	10	14,105	−59.1	----	21	13,863	−57.3	----
125	----	----	----	----	9	15,101	−59.0	----	9	15,233	−65.5	----	----	----	----	----	17	15,089	−61.9	----	----	----	----	----	12	15,021	−58.8	----
100	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	13	16,478	−63.0	----	----	----	----	----	----	----	----	----

Standard pressure surface (mb.)	Oklahoma City, Okla. (964.1 mb.)				Omaha, Nebr. (974.0 mb.)				Phoenix, Ariz. (966.8 mb.)				Pittsburgh, Pa. (970.6 mb.)				Portland, Maine (1,012.8 mb.)				Rapid City, S. Dak. (899.0 mb.)				St. Cloud, Minn. (973.1 mb.)			
Surface	29	391	24.5	70	30	308	20.6	78	30	339	32.8	19	30	382	19.3	70	30	20	12.9	85	30	980	14.6	78	30	316	16.2	76
1,000	29	69	(*)	----	30	80	(*)	----	30	32	(*)	----	30	123	(*)	----	30	127	13.9	79	30	64	(*)	----	30	82	(*)	----
950	29	519	24.5	65	30	524	19.4	74	30	499	32.6	18	30	573	19.1	66	30	567	14.1	67	30	511	(*)	----	30	527	16.4	68
900	29	993	22.3	62	30	988	16.6	76	30	980	28.7	20	30	1,030	16.3	65	30	1,016	12.6	64	30	972	(*)	----	30	979	13.5	71
850	29	1,489	19.7	61	30	1,473	14.3	74	30	1,483	24.2	23	30	1,514	13.0	66	30	1,495	10.4	61	30	1,455	13.8	66	30	1,459	10.6	69
800	29	2,009	17.8	51	30	1,985	12.4	65	30	2,008	19.4	27	30	2,021	9.8	65	30	1,997	7.7	63	30	1,963	10.6	69	30	1,962	8.2	63
750	29	2,564	15.0	42	30	2,528	9.5	61	30	2,559	14.5	32	30	2,562	6.8	60	30	2,531	4.8	60	30	2,502	7.2	68	30	2,501	5.7	65
700	29	3,140	11.2	41	30	3,094	6.5	52	30	3,135	9.9	35	30	3,119	4.0	51	30	3,087	2.1	56	30	3,063	3.9	67	30	3,057	2.8	60
650	29	3,755	6.9	38	30	3,698	2.7	46	30	3,750	5.7	32	30	3,723	1.0	42	30	3,686	−1.4	59	30	3,665	0.2	67	30	3,159	−0.3	62
600	29	4,406	2.2	40	29	4,339	−1.7	43	29	4,396	1.5	32	30	4,358	−2.6	40	30	4,315	−5.2	53	30	4,300	−3.7	66	30	4,291	−3.6	56
550	29	5,102	−2.6	39	29	5,027	−6.0	37	29	5,090	−2.7	----	30	5,048	−6.6	42	30	4,996	−9.1	47	29	4,986	−8.1	62	30	4,979	−7.7	51
500	28	5,853	−7.4	----	29	5,767	−10.9	----	29	5,840	−7.7	----	30	5,781	−11.2	41	30	5,725	−13.6	46	29	5,718	−12.5	61	30	5,709	−12.6	45
450	25	6,670	−12.9	----	28	6,574	−16.2	----	29	6,659	−13.4	----	30	6,594	−16.3	----	30	6,527	−19.1	51	29	6,520	−17.8	63	29	6,515	−18.0	47
400	24	7,548	−19.4	----	28	7,445	−22.4	----	28	7,540	−19.7	----	30	7,459	−22.4	----	30	7,385	−24.8	----	29	7,387	−23.5	----	29	7,376	−24.0	----
350	23	8,533	−26.5	----	28	8,412	−29.4	----	28	8,516	−27.7	----	30	8,425	−29.3	----	29	8,336	−32.2	----	29	8,350	−30.8	----	29	8,336	−31.3	----
300	23	9,630	−34.2	----	28	9,494	−37.7	----	27	9,606	−36.8	----	30	9,508	−37.3	----	29	9,406	−40.2	----	29	9,425	−39.1	----	28	9,411	−39.6	----
250	21	10,889	−43.3	----	26	10,740	−46.4	----	27	10,843	−46.5	----	30	10,742	−46.6	----	29	10,627	−48.2	----	29	10,649	−48.5	----	28	10,633	−48.6	----
200	11	12,350	−54.5	----	26	12,191	−55.2	----	27	12,291	−56.6	----	27	12,195	−55.1	----	25	12,061	−55.1	----	26	12,103	−55.4	----	26	12,084	−54.9	----
175	7	13,179	−59.3	----	25	13,041	−58.6	----	24	13,132	−61.0	----	25	13,038	−58.7	----	21	12,905	−56.8	----	18	12,932	−57.0	----	25	12,937	−56.1	----
150	----	----	----	----	23	14,004	−61.3	----	19	14,085	−64.9	----	20	13,991	−59.6	----	19	13,872	−57.1	----	8	13,901	−54.9	----	19	13,882	−56.7	----
125	----	----	----	----	18	15,122	−62.4	----	8	15,182	−68.0	----	12	15,142	−60.2	----	18	15,017	−57.5	----	----	----	----	----	9	15,003	−56.8	----
100	----	----	----	----	12	16,518	−63.1	----	----	----	----	----	8	16,519	−59.7	----	11	16,430	−57.3	----	----	----	----	----	5	16,453	−58.4	----

Standard pressure surface (mb.)	San Antonio, Tex. (982.9 mb.)				San Juan, P. R. (1,015.6 mb.)				Santa Maria, Calif. (1,004.7 mb.)				Sault Ste. Marie, Mich. (986.9 mb.)				Spokane, Wash. (942.0 mb.)				Swan Island, W. I. (1,011.8 mb.)				Tacubaya, Mexico (773.5 mb.)			
Surface	28	240	27.0	72	30	15	25.9	81	30	71	17.1	71	29	221	12.1	80	30	598	19.1	46	30	10	27.0	83	28	2,306	17.7	67
1,000	28	86	(*)	----	30	152	24.6	81	30	111	16.5	73	29	109	(*)	----	30	81	(*)	----	30	114	26.2	84	28	45	(*)	----
950	28	542	25.1	77	30	603	21.2	85	30	554	15.7	65	29	547	13.9	63	30	528	(*)	----	30	570	22.7	85	28	509	(*)	----
900	28	1,015	21.9	80	30	1,068	18.0	83	30	1,007	17.1	41	29	997	12.2	61	30	988	16.0	47	30	1,036	20.1	78	28	990	(*)	----
850	28	1,511	19.6	72	30	1,556	15.2	79	30	1,494	16.3	38	29	1,474	9.6	61	30	1,470	11.9	53	30	1,528	17.5	73	28	1,488	(*)	----
800	28	2,031	17.1	59	30	2,068	13.1	63	30	2,007	13.5	31	29	1,975	6.9	58	30	1,974	7.6	61	30	2,046	15.2	62	28	2,014	(*)	----
750	28	2,586	14.7	43	30	2,611	10.4	49	30	2,555	10.8	25	29	2,511	4.5	53	30	2,507	3.1	70	30	2,596	12.1	57	28	2,573	15.6	70
700	28	3,161	11.7	33	30	3,180	7.5	44	30	3,119	7.9	27	29	3,063	2.2	47	30	3,057	−1.4	77	30	3,116	8.7	54	28	3,151	11.1	76
650	28	3,781	7.8	----	29	3,790	4.5	36	30	3,732	4.9	26	29	3,664	−0.8	43	30	3,648	−4.8	66	30	3,781	4.8	54	28	3,769	6.5	82
600	28	4,430	3.6	----	29	4,435	0.9	29	30	4,375	1.7	----	29	4,293	−4.3	39	30	4,270	−8.3	57	30	4,424	0.7	51	28	4,421	1.9	87
550	26	5,132	−1.0	----	29	5,129	−3.3	30	30	5,075	−2.1	----	29	4,978	−8.2	----	30	4,944	−12.5	55	29	5,120	−3.4	52	28	5,118	−2.7	85
500	24	5,881	−5.9	----	29	5,875	−8.3	38	30	5,822	−7.1	----	29	5,707	−13.0	----	30	5,661	−17.1	52	29	5,866	−7.7	52	28	5,869	−7.3	73
450	23	6,707	−11.4	----	29	6,698	−13.7	46	30	6,642	−12.8	----	29	6,512	−18.4	----	30	6,453	−22.5	----	29	6,690	−12.2	49	28	6,695	−11.4	59
400	23	7,593	−17.1	----	29	7,570	−19.8	47	30	7,522	−19.5	----	29	7,372	−24.6	----	30	7,298	−28.5	----	29	7,570	−17.9	49	28	7,579	−16.8	51
350	21	8,584	−24.3	----	29	8,548	−26.8	----	30	8,499	−26.9	----	28	8,329	−31.9	----	30	8,240	−35.5	----	29	8,555	−24.8	----	28	8,568	−23.9	----
300	19	9,683	−33.2	----	29	9,642	−34.8	----	30	9,592	−35.2	----	27	9,404	−40.0	----	30	9,295	−43.5	----	29	9,657	−33.4	----	27	9,675	−32.3	----
250	18	10,936	−42.7	----	29	10,890	−44.6	----	30	10,839	−44.0	----	24	10,619	−48.6	----	30	10,499	−51.2	----	29	10,910	−43.6	----	24	10,943	−42.2	----
200	18	12,406	−53.5	----	28	12,342	−56.1	----	22	12,322	−53.0	----	16	12,028	−53.9	----	29	11,941	−53.1	----	28	12,373	−55.6	----	10	12,399	−55.2	----
175	16	13,253	−59.3	----	27	13,178	−62.5	----	12	13,188	−56.7	----	13	12,868	−54.0	----	29	12,803	−51.9	----	27	13,209	−62.3	----	8	13,243	−62.6	----
150	10	14,205	−64.4	----	21	14,117	−68.2	----	8	14,155	−59.9	----	7	13,879	−55.0	----	29	13,803	−51.4	----	22	14,148	−69.1	----	----	----	----	----
125	----	----	----	----	8	15,204	−71.7	----	----	----	----	----	----	----	----	----	27	14,989	−52.2	----	----	----	----	----	----	----	----	----
100	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	20	16,432	−51.8	----	----	----	----	----	----	----	----	----
80	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	9	17,852	−50.6	----	----	----	----	----	----	----	----	----

See footnotes at end of table.

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during June 1947*—Continued

Standard pressure surface (mb.)	Tampa, Fla. (1,015.1 mb.)				Tatoosh Island, Wash. (1,012.5 mb.)				Toledo, Ohio (991.4 mb.)				Washington, D. C. (1,013.1 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	30	9	24.7	84	30	31	13.3	83	30	191	17.7	79	30	25	21.0	76
1,000	30	141	24.5	84	30	135	12.4	84	30	116	(*)	----	30	137	20.6	72
950	30	593	22.2	80	30	565	10.2	81	30	558	17.4	67	30	583	18.7	68
900	30	1,059	19.5	77	30	1,013	8.2	76	30	1,017	14.7	67	30	1,043	16.0	68
850	30	1,551	16.8	76	30	1,483	5.5	74	30	1,498	12.1	66	30	1,527	12.9	66
800	30	2,066	13.6	75	30	1,976	3.0	69	30	2,004	9.4	58	30	2,034	9.9	66
750	30	2,612	10.5	69	30	2,505	0.5	61	30	2,545	6.7	45	30	2,573	6.9	58
700	30	3,180	7.4	64	30	3,048	−2.3	54	30	3,102	3.9	44	30	3,133	3.9	49
650	30	3,791	4.3	53	30	3,637	−5.3	52	30	3,704	1.0	40	29	3,731	0.6	44
600	30	4,435	0.6	46	30	4,259	−8.7	43	30	4,341	−2.5	40	29	4,370	−2.9	47
550	30	5,127	−3.6	46	30	4,930	−12.8	43	30	5,027	−6.6	42	29	5,052	−7.2	43
500	30	5,876	−7.9	49	30	5,649	−17.4	45	30	5,764	−11.3	----	29	5,791	−11.9	45
450	30	6,696	−12.8	50	29	6,439	−22.7	48	29	6,574	−16.3	----	29	6,597	−17.1	48
400	29	7,576	−18.8	----	29	7,286	−28.8	51	29	7,444	−22.1	----	29	7,464	−23.4	----
350	29	8,556	−25.6	----	27	8,218	−35.7	----	29	8,410	−29.6	----	29	8,427	−30.4	----
300	29	9,655	−33.9	----	27	9,274	−42.7	----	28	9,494	−38.1	----	29	9,505	−38.4	----
250	29	10,905	−44.0	----	22	10,486	−48.6	----	25	10,738	−47.5	----	29	10,734	−47.7	----
200	27	12,366	−55.5	----	22	11,946	−49.8	----	22	12,182	−57.3	----	28	12,181	−56.2	----
175	27	13,204	−61.7	----	19	12,826	−49.1	----	18	13,036	−61.0	----	27	13,021	−59.6	----
150	23	14,145	−66.8	----	18	13,835	−49.0	----	13	13,993	−62.6	----	24	13,976	−62.2	----
125	12	15,242	−70.2	----	16	15,039	−49.3	----	6	15,116	−63.7	----	15	15,086	−62.1	----
100	5	16,554	−71.1	----	7	16,500	−47.4	----	----	----	----	----	12	16,450	−61.2	----

*Temperature and relative humidity data for this level are not available or are available only for certain days. See note entitled "Change in Summarization of Radiosonde Data," p. 6, in the January 1946 issue of the MONTHLY WEATHER REVIEW.

NOTE.—All observations scheduled between 0300 and 0500, G. C. T. except at Ciudad Victoria, Mazatlan, and Merida, where they are taken near 0200, G. C. T.

"Number of observations" refers to those of dynamic height only. (In a few cases temperature or humidity data may be missing for one or more standard pressure surfaces of some observations.) Relative humidity data are not published for standard pressure surfaces having a corresponding mean temperature below −20° C.

All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the values occurring below the operating range of the humidity element. For explanation of the adjustment see article entitled "Curve Method for Obtaining Monthly Means of Relative Humidity," p. 241, MONTHLY WEATHER REVIEW, December 1944.

None of the means included in these tables are based on less than 15 observations at the surface or 5 observations at a standard pressure level.

TABLE 2.—*Free-air resultant winds based on pilot balloon observations made near 5 p. m., E. S. T. (2200 G. C. T.) during June 1947. Directions given in degrees from north (N=360°, E=90°, S=180°, W=270°). Velocities in meters per second*

Altitude (meters) m. s. l.	Abilene, Tex. (534 m.)			Albuquerque, N. Mex. (1,630 m.)			Atlanta, Ga. (299 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (512 m.)			Boise, Idaho (868 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	30	173	6.3	30	224	4.9	29	312	1.4	29	333	0.8	30	253	0.9	30	308	4.0
500	----	----	----	----	----	----	29	286	1.3	----	----	----	----	----	----	----	----	----
1,000	30	178	8.5	----	----	----	28	260	2.1	----	----	----	30	201	1.5	30	314	4.7
1,500	30	182	8.8	----	----	----	27	243	2.9	29	288	1.7	26	237	1.6	30	309	4.8
2,000	30	191	7.6	30	228	5.9	26	265	3.5	29	282	2.9	22	277	2.4	30	292	5.2
2,500	30	201	6.4	30	233	6.2	23	287	4.4	28	270	3.9	19	298	5.1	29	279	5.1
3,000	28	216	5.9	30	238	6.8	19	302	3.4	24	250	6.2	13	271	7.0	28	269	4.5
4,000	28	239	5.3	30	245	8.8	17	290	4.2	20	257	12.4	13	269	11.9	21	263	4.8
5,000	26	254	4.9	28	257	11.0	12	301	4.6	19	261	14.0	----	----	----	17	263	6.2
6,000	24	257	5.5	25	258	15.0	10	300	5.4	16	262	13.6	----	----	----	12	258	6.9
8,000	21	256	9.3	22	256	19.5	----	----	----	----	----	----	----	----	----	----	----	----
10,000	16	262	12.7	18	256	21.1	----	----	----	----	----	----	----	----	----	----	----	----
12,000	13	260	15.9	11	265	22.9	----	----	----	----	----	----	----	----	----	----	----	----

Altitude (meters) m. s. l.	Brownsville, Tex. (7 m.)			Buffalo, N. Y. (220 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (276 m.)			Denver, Colo. (1,627 m.)			El Paso, Tex. (1,198 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	30	140	7.6	26	240	2.2	20	174	1.8	29	172	3.3	30	219	2.2	29	71	0.9	30	243	4.7
500	30	145	10.8	26	254	3.7	20	201	3.3	29	183	4.9	30	219	2.4	----	----	----	----	----	----
1,000	29	155	10.0	24	258	4.4	20	233	4.3	28	201	4.1	29	215	3.6	----	----	----	----	----	----
1,500	28	161	8.1	21	253	4.8	18	264	6.1	28	224	3.2	28	233	3.8	----	----	----	30	244	5.8
2,000	25	160	6.6	19	261	3.7	15	264	8.2	25	261	2.6	25	261	5.2	29	75	1.7	30	247	6.6
2,500	21	170	5.8	18	270	3.6	11	258	8.7	24	278	4.2	17	264	7.8	29	110	1.3	30	245	6.8
3,000	21	155	4.4	16	281	4.9	----	----	----	24	280	4.0	16	274	8.5	27	203	1.6	30	255	7.1
4,000	19	138	3.6	13	295	5.3	----	----	----	21	291	5.1	----	----	----	23	247	7.8	30	255	8.8
5,000	17	145	2.3	----	----	----	----	----	----	18	294	6.3	----	----	----	22	253	12.0	30	250	10.1
6,000	15	176	2.6	----	----	----	----	----	----	14	304	7.5	----	----	----	19	257	14.2	29	253	10.6
8,000	10	19	1.3	----	----	----	----	----	----	10	305	8.2	----	----	----	14	271	18.8	26	250	10.7
10,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	18	259	14.7
12,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	14	270	17.5

Altitude (meters) m. s. l.	Ely, Nev. (1,910 m.)			Grand Junction, Colo. (1,475 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Joliet, Ill. (178 m.)			Las Vegas, Nev. (575 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	30	243	2.6	30	251	2.3	29	206	1.7	27	267	1.8	27	107	2.4	29	195	2.5	30	212	3.0
500	----	----	----	----	----	----	29	199	3.0	----	----	----	27	141	2.2	29	203	3.2	----	----	----
1,000	----	----	----	----	----	----	29	220	3.4	27	269	2.3	27	221	.9	28	202	4.7	30	210	4.4
1,500	----	----	----	30	250	2.3	29	238	3.2	27	272	3.0	26	280	1.9	23	223	5.4	30	208	4.3
2,000	30	238	2.6	30	243	3.3	27	265	3.9	26	270	4.2	25	303	3.3	18	244	5.2	30	216	4.2
2,500	30	229	3.6	30	235	4.0	24	286	5.9	22	261	4.7	23	283	3.6	16	263	4.2	30	226	4.2
3,000	30	230	2.6	29	240	4.9	22	289	6.9	21	269	6.2	23	281	2.8	14	275	5.5	30	244	5.1
4,000	28	238	4.3	24	231	6.2	19	287	10.2	14	287	6.5	18	287	4.1	10	270	7.4	30	248	8.3
5,000	16	249	8.3	20	238	7.4	13	293	10.5	10	276	9.2	17	287	5.3	----	----	----	28	271	10.4
6,000	15	263	12.4	14	251	12.4	11	289	12.8	10	272	9.0	15	291	4.4	----	----	----	27	279	13.5
8,000	----	----	----	11	268	18.5	----	----	----	----	----	----	11	287	6.9	----	----	----	20	267	18.5
10,000	----	----	----	11	264	25.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Altitude (meters) m. s. l.	Little Rock, Ark. (88 m.)			Medford, Oreg. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (194 m.)			New York, N. Y. (15 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	29	200	2.7	30	292	2.5	29	137	2.3	29	218	1.6	30	224	2.3	29	180	2.9
500	29	208	4.0	30	295	2.7	29	136	3.4	29	224	2.8	30	223	3.3	29	210	3.6
1,000	27	210	4.6	30	304	2.5	29	164	2.3	28	253	2.4	28	228	4.3	28	248	4.1
1,500	26	225	5.3	27	282	2.1	29	176	1.4	24	276	2.2	23	240	4.5	27	266	4.0
2,000	25	287	6.8	24	275	1.3	27	245	.8	19	302	2.3	21	255	5.1	23	265	4.8
2,500	20	244	7.9	18	312	.9	26	292	.8	18	283	2.4	17	264	7.6	19	288	4.7
3,000	19	239	8.0	18	292	2.3	26	292	1.5	16	311	2.2	13	256	8.2	16	303	4.2
4,000	17	257	7.3	17	301	5.5	21	262	3.0	14	321	3.0	10	266	11.7	----	----	----
5,000	11	258	8.7	15	306	8.4	18	264	2.4	12	304	5.1	----	----	----	----	----	----
6,000	----	----	----	13	298	11.1	15	289	2.4	11	282	5.2	----	----	----	----	----	----
8,000	----	----	----	10	302	11.8	----	----	----	----	----	----	----	----	----	----	----	----
10,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

TABLE 2.—*Free-air resultant winds based on pilot balloon observations made near 5 p. m., E. S. T. (2200 G. C. T.) during April 1947. Directions given in degrees from north (N=360°, E=90°, S=180°, W=270°). Velocities in meters per second*—Continued

Altitude (meters) m. s. l.	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (396 m.)			Omaha, Nebr. (306 m.)			Phoenix, Ariz. (338 m.)			Rapid City, S. Dak. (982 m.)			St. Louis, Mo. (181 m.)			St. Cloud, Minn. (318 m.)			San Antonio, Tex. (240 m.)			San Diego, Calif. (13 m.)			Sault Ste. Marie, Mich. (225 m.)			Seattle, Wash. (116 m.)			Spokane, Wash. (603 m.)			Washington, D. C. (24 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	30	266	5.4	30	185	6.2	29	146	1.6	30	269	2.1	27	9	1.4	30	180	1.3	30	198	0.6	30	151	4.7	30	253	4.2	29	265	2.0	30	240	3.1	30	226	2.1	29	177	2.2
500	30	282	4.9	30	186	6.5	29	165	1.9	30	261	3.9	---	---	---	30	203	2.3	30	194	.8	30	152	5.9	29	267	3.7	29	265	2.3	30	238	3.0	---	---	---	29	200	2.6
1,000	30	297	2.9	30	189	7.5	26	199	2.4	30	249	5.0	27	8	1.3	29	220	4.0	29	192	1.6	30	163	5.5	22	308	2.9	28	217	2.9	30	234	3.3	30	238	4.1	29	238	2.7
1,500	29	320	3.2	28	207	8.0	24	235	4.1	30	239	5.6	27	349	1.0	26	235	6.7	28	277	1.9	30	165	6.2	21	323	3.0	27	208	3.8	29	228	3.4	29	235	4.4	28	268	2.9
2,000	27	334	2.8	23	218	8.1	20	251	6.8	30	230	5.8	26	214	1.9	19	254	8.7	23	262	2.9	29	173	5.9	20	305	3.1	22	218	2.9	26	228	3.7	27	245	5.3	24	271	4.5
2,500	27	306	2.7	22	236	8.2	18	264	8.9	30	228	6.7	24	241	5.1	19	264	9.4	17	270	4.0	28	182	5.4	19	286	4.4	22	238	4.5	21	240	2.6	26	249	5.5	22	283	6.0
3,000	27	310	3.0	19	246	8.9	16	274	11.6	30	233	8.1	21	254	7.7	17	273	9.7	16	258	5.4	27	190	4.1	19	267	5.2	21	258	6.9	18	267	2.6	22	247	5.2	22	290	7.5
4,000	26	315	6.3	19	261	10.2	13	280	15.0	30	239	8.8	17	263	11.5	14	268	11.6	14	266	9.3	24	198	3.8	18	256	7.6	19	278	8.8	12	292	3.8	13	262	5.8	18	280	10.9
5,000	24	312	9.1	17	270	11.6	13	273	15.7	28	252	9.8	14	262	11.6	11	268	9.5	---	---	---	22	210	2.9	15	245	10.3	16	305	8.7	10	265	4.8	13	264	7.3	16	275	12.4
6,000	23	311	12.0	15	274	11.1	12	266	19.5	26	249	9.7	11	263	12.6	---	---	---	---	---	---	17	223	4.2	15	246	10.4	11	307	12.7	---	---	---	---	---	---	13	277	13.2
8,000	15	292	12.8	---	---	---	---	---	---	21	252	12.0	---	---	---	---	---	---	---	---	---	14	238	5.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10,000	---	---	---	---	---	---	---	---	---	16	263	17.7	---	---	---	---	---	---	---	---	---	11	263	6.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12,000	---	---	---	---	---	---	---	---	---	10	255	22.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 3.—*Maximum free-air wind velocities (m. p. s.) for different sections of the United States based on pilot balloon observations during June 1947*

Section	Surface to 2,500 meters (m. s. l.)					Above 2,501 to 5,000 meters (m. s. l.)					Above 5,000 meters (m. s. l.)				
	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station
Northeast [1]	34.1	w.	1,810	1	Burlington, Vt.	41.1	w.	4,810	12	Caribou, Maine	65.0	ene.	10,167	22	Portland, Maine.
East-Central [2]	33.7	ssw.	1,154	2	Louisville, Ky.	35.8	w.	3,754	7	Huntington, W. Va.	54.0	nnw.	9,735	23	Huntington, W. Va.
Southeast [3]	22.5	s.	817	13	Charleston, S. C.	22.2	nnw.	4,927	28	Spartanburg, S. C.	56.0	nw.	11,611	23	Jacksonville, Fla.
North-Central [4]	54.6	ssw.	1,572	4	Marquette, Mich.	44.0	w.	4,627	29	Marquette, Mich.	70.0	sw.	11,828	13	International Falls, Minn.
Central [5]	46.2	sw.	2,229	4	Sioux City, Iowa	38.4	wsw.	4,848	27	Lander, Wyo.	74.0	wnw.	12,299	26	Columbia, Mo.
South-Central [6]	35.4	ssw.	2,376	9	Tulsa, Okla.	34.5	ssw.	2,501	9	Tulsa, Okla.	59.2	wsw.	12,229	14	Little Rock, Ark.
Northwest [7]	29.4	wnw.	1,143	18	Ellensburg, Wash.	44.7	nw.	5,000	20	Medford, Oreg.	78.0	wnw.	11,581	20	Medford, Oreg.
West-Central [8]	36.2	wnw.	2,500	10	Denver, Colo.	52.0	nnw.	5,000	20	Red Bluff, Calif.	60.0	wnw.	5,605	10	Grand Junction, Colo.
Southwest [9]	35.0	ssw.	1,908	11	Winslow, Ariz.	52.0	ssw.	3,215	21	Albuquerque, N. Mex.	64.0	sw.	8,310	3	Albuquerque, N. Mex.

[1] Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, and northern Ohio.
[2] Delaware, Maryland, Virginia, West Virginia, southern Ohio, Kentucky, eastern Tennessee, and North Carolina.
[3] South Carolina, Georgia, Florida, and Alabama.
[4] Michigan, Wisconsin, Minnesota, North Dakota, and South Dakota.
[5] Indiana, Illinois, Iowa, Nebraska, Kansas, and Missouri.
[6] Mississippi, Arkansas, ouisiana, Oklahoma, Texas (except El Paso), and western Tennessee.
[7] Montana, Idaho, Washington, and Oregon.
[8] Wyoming, Colorado, Utah, northern Nevada, and northern California.
[9] Southern California, southern Nevada, Arizona, New Mexico, and extreme west Texas.

RIVER STAGES AND FLOODS FOR JUNE 1947

C. R. JORDAN

Precipitation during June was above normal over the greater part of the United States. Rainfall was particularly heavy in the central Mississippi and lower Missouri River Valleys. Two to four times the normal amounts for June fell in Iowa, Nebraska, Idaho, and Wyoming. It was drier than usual in the middle and southern Appalachians and over a broad strip extending across the southern part of the country, except for Louisiana, eastern Texas, and along the immediate south Atlantic Coast. Rainfall was below normal also in Nevada, western Idaho, and the eastern parts of Washington and Oregon.

Major floods occurred in the Central States. The severe and prolonged floods in the lower Missouri and central Mississippi Rivers were the worst in over 100 years. The Mississippi River at St. Louis, Mo. reached 40.3 feet, which was exceeded only by the flood of 1844. Several lives were lost and flood damage was tremendous. A report of the flood, with a table of flood stages for June, will be included in the July issue of the Review.

Drought conditions continued in the extreme Southwest, with water supplies critically short in some localities, according to the U. S. Geological Survey.

Locally heavy rainfall at Lake Charles, La., on June 19, produced local flooding. The heavy downpour of rain began at 5:50 a. m., and ended at 2:28 p. m. It was extremely limited in area and resulted from one continuous thunderstorm. Apparently the heaviest downpour occurred on the east side of the river almost directly over the city. The Mathieson Alkali Works, about 6 miles due west of Lake Charles, on the opposite side of the river, reported a total fall of only 6.25 inches. Cameron, about 40 miles south-southwest, reported a total of 0.22 inch during the day; Kinder, La. had 1.62 inches; Lafayette, 60 miles east, had a total of 0.19 inch. The highest wind recorded was 23 miles per hour from the north at 11:30 a. m., with an average velocity during the storm of 15 miles per hour from east-northeast, shifting to south and southeast near the end of the rainfall. The total fall at Lake Charles was 15.79 inches. There was considerable local flooding but the crest of the rise in the main river was 2 feet below flood stage.